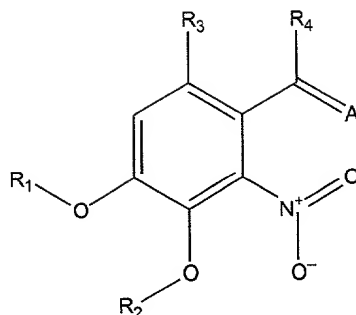


**Claims**

1. A compound of formula I:



5

I

where  $R_1$  and  $R_2$  are the same or different and signify hydrogen, optionally substituted lower alkanoyl or aroyl, optionally substituted lower alkoxy carbonyl, or optionally substituted lower alkyl carbamoyl;  $R_3$  signifies hydrogen or optionally substituted alkanoyl or aroyl group;  $R_4$  signifies optionally substituted saturated or partially unsaturated lower alkyl or aryl group, or taken together with  $R_3$  signifies an optionally substituted saturated or partially unsaturated carbocyclic ring; A signifies oxygen or  $NR_5$  group, where  $R_5$  signifies  $NHR_6$  where  $R_6$  signifies optionally substituted lower alkyl or aryl group, or  $OR_7$  group where  $R_7$  signifies hydrogen, lower alkyl or lower alkanoyl, or A signifies an optionally substituted alkylidene when  $R_4$  signifies  $OR_8$  group where  $R_8$  signifies optionally substituted lower alkanoyl or aroyl group, and pharmaceutically acceptable salts thereof.

20

2. A compound according to claim 1, wherein  $R_4$  is substituted with at least one aryl or heterocycloalkyl group.

3. A compound according to claim 1, comprising: 6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 5,6-dihydroxy-7-nitro-indan-1-one; 2-(3,4-dimethoxy-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; (3,4-dihydroxy-2-nitro-phenyl)-phenyl-methanone; 5,6-dihydroxy-7-nitro-indan-1-one oxime; 2-(3,4-Dimethoxy-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-

(4-dimethylamino-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-(4-dimethylamino-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 5,6-dihydroxy-2-(4-hydroxy-3-methoxy-5-nitro-benzylidene)-7-nitro-indan-1-one; 6,7-dihydroxy-2-(4-hydroxy-3-methoxy-5-nitro-benzylidene)-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 2-(3,4-dihydroxy-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 2-(3,4-dihydroxy-benzylidene)-6,7-dihydroxy-8-nitro-3,4-dihydro-2H-naphthalen-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-phenyl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-4-phenyl-butan-1-one; 2-(3,4-dihydroxy-5-nitro-benzylidene)-5,6-dihydroxy-7-nitro-indan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-pentan-1-one; 2,3-dihydroxy-1-nitro-anthraquinone; butyric acid 6-butyryloxy-2-nitro-3-(3-phenyl-propionyl)-phenyl ester; butyric acid 3-benzoyl-6-butyryloxy-2-nitro-phenyl ester; carbonic acid 4-benzoyl-2-ethoxycarbonyloxy-3-nitro-phenyl ester ethyl ester; carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-(3-phenyl-propionyl)-phenyl ester ethyl ester; carbonic acid 4,5-dibenzoyl-2-ethoxycarbonyloxy-3-nitro-phenyl ester ethyl ester; 1-(3,4-dihydroxy-2-nitro-phenyl)-2-phenyl-ethanone; acetic acid 3-acetoxy-7,7-dimethyl-1-nitro-8-oxo-5,6,7,8-tetrahydro-naphthalen-2-yl ester; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-morpholin-4-yl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-piperidin-1-yl-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-pyrrolidin-1-yl-propan-1-one; 5,6-dihydroxy-2-morpholin-4-ylmethyl-7-nitro-indan-1-one; 1-[3-(3,4-dihydroxy-2-nitro-phenyl)-3-oxo-propyl]-piperidine-3-carboxylic acid diethylamide; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(3-methyl-piperidin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(4-methyl-piperidin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(octahydro-quinolin-1-yl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(3,5-dimethyl-piperidin-1-yl)-propan-1-one; 3-(4-benzyl-piperidin-1-yl)-1-(3,4-dihydroxy-2-nitro-phenyl)-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-[4-(4-methoxy-phenyl)-piperazin-1-yl]-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-[4-(3-trifluoromethyl-phenyl)-piperazin-1-yl]-propan-1-one; 1-(3,4-dihydroxy-2-nitro-phenyl)-3-(4-propyl-piperazin-1-yl)-propan-1-one; acetic acid 6-acetoxy-2-nitro-3-(3-phenyl-acryloyl)-phenyl ester 1-(3,4-Dihydroxy-2-nitro-phenyl)-3-phenyl-propenone; 1-(3,4-dihydroxy-2-nitro-phenyl)-2-morpholin-4-yl-ethanone; 5,6-dihydroxy-7-nitro-2-[4-(3-trifluoromethyl-phenyl)-piperazin-1-ylmethyl]-indan-1-one; 5,6-dihydroxy-7-nitro-2-(4-phenyl-piperazin-1-ylmethyl)-indan-1-one; acetic acid 6-

acetoxy-2-nitro-3-phenylacetyl-phenyl ester; acetic acid 2-acetoxy-4-(1-acetoxy-2-phenyl-vinyl)-3-nitro-phenyl ester; butyric acid 6-butyryloxy-2-nitro-3-phenylacetyl-phenyl ester; carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-phenylacetyl-phenyl ester ethyl ester; acetic acid 6-acetoxy-2-nitro-3-(4-phenyl-butyryl)-phenyl ester;  
 5 butyric acid 6-butyryloxy-2-nitro-3-(4-phenyl-butyryl)-phenyl ester or carbonic acid 2-ethoxycarbonyloxy-3-nitro-4-(4-phenyl-butyryl)-phenyl ester ethyl ester.

4. A method of treating a subject afflicted by some central and peripheral nervous system disorders, where a reduction in the O-methylation of catecholamines may  
 10 be of therapeutical benefit, such as mood disorders, Parkinson's disease and parkinsonian disorders, gastrointestinal disturbances, edema formation states and hypertension, which comprises administering to the subject an amount of a compound according to claim 1 effective to treat said diseases in the subject.

15 5. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to claim 1 in combination with a pharmaceutically acceptable carrier.

6. The use of a compound according to claim 1 in the manufacture of a medication  
 20 for treating a subject afflicted by central or peripheral nervous system disorders.

7. The use of a compound according to claim 1 in the manufacture of a medication for treating mood disorders, Parkinson's disease and parkinsonian disorders, gastrointestinal disturbances, edema formation states and hypertension.

25

8. The use of a compound according to claim 1 in therapy.

9. The use of a compound according to claim 1 in the manufacture of a medicament for use as a COMT inhibitor.

30